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A New Species of *Pnigalio* (Hymenoptera: Eulophidae) from Japan, Parasitoid of a Sawfly

Kazuaki KAMIJO

Nishi 2 Minami 6, Bibai, Hokkaido, 072 Japan

Abstract *Pnigalio okutanii* n. sp. is described from Japan. It is a larval parasitoid of *Cladius pectinicornis* (GEOFFROY) (Hymenoptera: Tenthredinidae) on rose.

Key words: *Pnigalio*; Eulophidae; new species; sawflies; Japan.

Among species of the genus *Pnigalio* SCHRANK, which are mainly parasitic on leaf-miners of Lepidoptera and Diptera, seven species have been known to attack sawflies. Of these, *P. nemati* (WESTWOOD) parasitic on *Pontania* spp. on willow and *P. pristiphorae* ASKEW on *Pristiphora* spp. on spruce, are characteristic having a well-defined tooth at the base of the propodeal median carina and, in the female, a three-segmented funicle (ASKEW, 1965, 1968). *P. okutanii* n. sp. a parasitoid of *Cladius pectinicornis*, is allied to them having both characters.

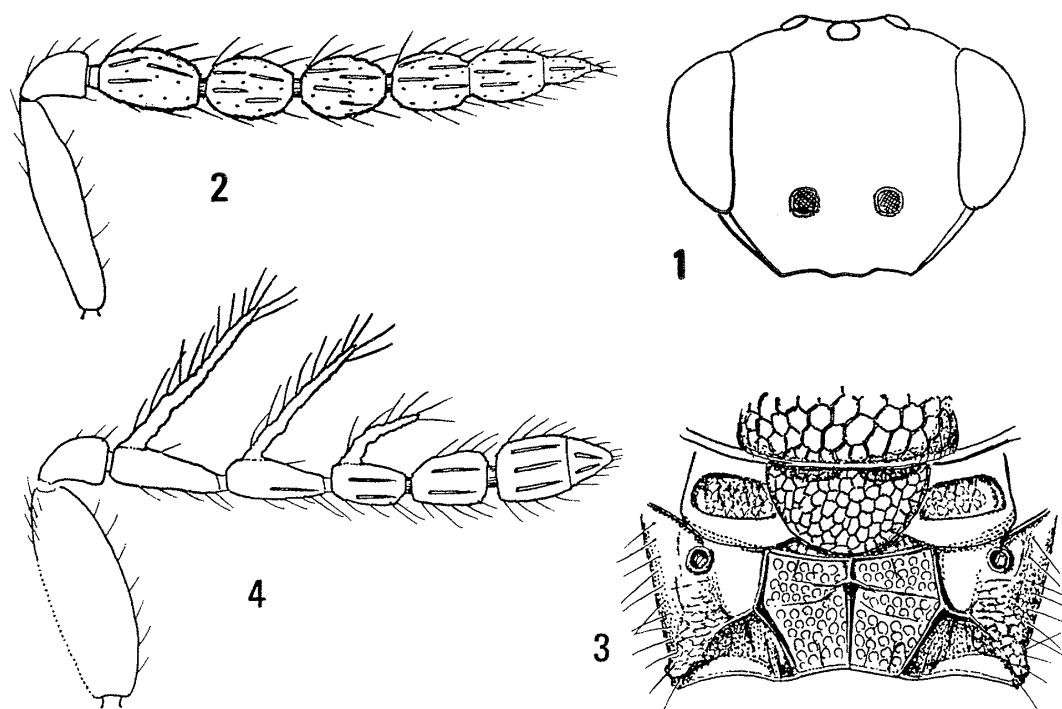
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Pnigalio okutanii n. sp.

Female. Body length 1.7–1.9 mm. Bluish green: vertex with a bronzy tinge; thoracic dorsum with bronzy reflections in places; gaster brownish yellow at base and in apical one-fourth, ventral surface of gaster wholly brownish yellow. Scape brownish yellow; pedicel and flagellum dark brown. Legs brownish yellow: fore tarsi entirely, mid and hind tarsi apically darker. Wings almost hyaline.

Head in dorsal view about 2.3 times as broad as long; lateral ocellus separated from inner orbit by 1.5 times its longest diameter. Vertex shiny, engraved-reticulate, with relatively long, blackish setae. Head in front view (Fig. 1) 1.4 times as broad as high; eyes bare, separated by 1.4 times their height; malar space half height of eye; clypeus not delimited, with anterior margin slightly produced, truncate or very weakly emarginate. Antennal toruli situated at level of ventral edge of eyes; scape not reaching median ocellus; combined length of pedicel and flagellum slightly longer than breadth of head; pedicel about 1.3 times as long as broad; second anellus thicker than first; funicle three-segmented (Fig. 2); first funicle segment distinctly longer than pedicel, about 1.6 times as long as broad; third segment a little shorter than first, about 1.4 times as long as broad. Flagellum covered with sparse, long setae.

Thorax 1.6 times as long as broad. Pronotum steeply declived in front of



Figs. 1–4. *Pnigalio okutanii* n. sp. — 1, ♀, head, front view; 2, ♀, right antenna; 3, ♀, dorsellum and propodeum; 4, ♂, right antenna.

collar; collar short, with coarse and strong reticulation which contrasts with the dense sculpture of the declived area. Mesoscutum coarsely and strongly reticulate, with mid lobe covered with pale, sparse (12–16) setae. Axillae densely and weakly reticulate. Scutellum as long as broad, reticulate as mesoscutal mid lob. Dorsellum long, more than 0.4 times length of scutellum (6.5: 15), densely, strongly reticulate. Propodeum (Fig. 3) a little longer than dorsellum, with hind corners prominent, rectangular or slightly acute; median area broader than long (12: 8), more densely reticulate than dorsellum; median carina strong, with basal tooth sharp and high; plicae distinct, almost parallel in anterior half; costula weak, sometimes absent; areas just outside plicae almost smooth; callus with about 14 setae. Prepectus coarsely reticulate throughout; mesepisternum sculptured throughout, without a depression; upper and lower mesepimerons almost smooth. Forewing twice as long as broad; marginal vein at least 3.5 times as long as stigmal vein (25.5: 7), a little shorter than costal cell; postmarginal vein short, about 1.5 times as long as stigmal; upper surface of basal cell bare, almost open below; basal vein with a few setae; upper surface of costal cell with several setae apically, lower surface with a row of setae; speculum rather large, closed below; costal cell of hind wing bare.

Petiole short and smooth. Gaster shorter than thorax (42: 49), 1.2–1.3 times as long as broad, obtuse apically; first tergite smooth and bare dorsally; second to fourth tergites almost smooth.

Male. Differs from female as follows. Body length 1.6 mm. Dark blue:

vertex blackish; thoracic dorsum with an extensive bronzy tinge; gaster mainly blackish brown with a somewhat lighter basal spot. Scape dark blue; pedicel and flagellum dark brown. Legs brownish yellow: fore coxae darker with faint metallic reflections anteriorly; hind coxae dark blue. Head in dorsal view 2.6 times as broad as long. Malar space 0.56 times height of eye. Antenna (Fig. 4): scape dilated but its posterior edge not well visible, probably 2.7 times as long as broad; anterior edge of scape with rather broad, distinct groove from base to apex, with margins of the groove carinate; funicle four-segmented; three branches short, with setae short. Gaster much shorter than thorax, 1.4 times as long as broad.

Holotype (♀), Kawagoe City, Saitama Pref., Honshu, em. 9. ix. 1989, ex *Cladius pectinicornis*, T. OKUTANI. Paratypes: 7 ♀ 1 ♂ with same data as holotype. The types will be deposited in the Laboratory of Systematic Entomology, Hokkaido University, Sapporo.

Distribution. Japan (Honshu).

Biology. Gregarious, larval parasitoid of *Cladius pectinicornis* (GEOFFROY) (Hymenoptera: Tenthredinidae) on rose.

Pnigalio okutanii n. sp. is close particularly to *P. nemati*, from which it differs in having the propodeum reticulate with prominent hind corners, anterior margin of clypeus weakly produced, antennal toruli situated at level of ventral edge of eyes, marginal vein at least 3.5 times as long as stigmal vein, and, in female, gaster distinctly shorter than thorax and brownish yellow with dorsum metallic centrally. *P. pristiphora* also resembles the new species but differs in the shape of the propodeum and in having the mesoscutum densely covered with dark, short setae, forewing with marginal vein about 2.5 times as long as stigmal vein, gaster longer than thorax in female, and legs mainly fuscous. The North American species *P. metacomet* (CRAWFORD, 1913), which attacks sawflies besides leaf-mining Lepidoptera, also has a three-segmented funicle in the female (see MILLER, 1970, Fig. 14); moreover, MILLER's Fig. 123 indicates that its propodeal median carina elevates anteriorly (both characters are not mentioned either in the original description or in the re-description given by MILLER, 1970). *P. metacomet* is, however, distinguished from the new species by a different shape and sculpture of the propodeum and the slender funicles in both sexes.

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